Trigonometry

Description of the Examination

The Subject Examination in Trigonometry covers material usually taught in a one-semester college course in trigonometry with primary emphasis on analytical trigonometry. More than half the exam is made up of routine problems requiring basic trigonometric skills; the remainder involves solving nonroutine problems in which candidates must demonstrate their understanding of concepts. The exam includes questions on trigonometric functions and their relationships; evaluation of trigonometric functions of positive and negative angles; trigonometric equations and inequalities; graphs of trigonometric functions; trigonometry of the triangle; and miscellaneous other topics. It is assumed that the candidate is familiar with currently taught trigonometric vocabulary and notation and with both radian and degree measure. The exam places little emphasis on arithmetic calculations, and the use of calculators and other computing devices is not permitted during the exam.

The exam consists of approximately 80 multiple-choice questions to be answered in two separately timed 45-minute sections.

Knowledge and Skills Required

The following subject matter is included on the Trigonometry exam.

Approximate Percent of Examination

30%	Trigonometric functions and their relationships
	Cofunction relationships
	Reciprocal relationships
	Pythagorean relationships such as $\sin2 + \cos2 = 1$
	Functions of two angles such as sin
	Functions of double angles such as cos2
	Functions of half angles such as sin
	Identities
20%	Evaluation of trigonometric functions of angles with terminal sides in the various quadrants or on the axes, including positive and negative angles greater than 360° (or 2p radians)
10%	Trigonometric equations and inequalities
10%	Graphs of trigonometric functions
10%	Trigonometry of the triangle including the law of sines and the law of cosines
20%	Miscellaneous

Inverse functions (arc sin, arc cos, arc tan)

Trigonometric form (polar form) of complex numbers including DeMoivre's theorem

Within the subject matter described above, questions on the exam require candidates to demonstrate the abilities given below in the approximate proportions indicated.

- Solving routine problems involving basic trigonometric skills (about 60 percent of the exam)

- Solving nonroutine problems requiring an understanding of concepts and the application of skills and concepts (about 40 percent of the exam)

Study Resources

To prepare for the Trigonometry exam, you should study the contents of at least one college level textbook, which you can find in most college bookstores. You would do well to consult several textbooks because the approaches to certain topics may vary. When selecting a textbook, check the table of contents against the "Knowledge and Skills Required" sections.